

## INSTRUCTIONS FOR COMPLETING THE MASSACHUSETTS PIPING PLOVER CENSUS FORM

These instructions are referenced to headings on the Massachusetts Piping Plover Census Form. Please report data as accurately and completely as possible, and complete a separate form for each beach that you census or manage.

Census Results - Report total number of breeding pairs and any unpaired adults present during the 9-day standardized count period (Index Count), and your best estimate of maximum number of breeding pairs and unpaired adults present during the entire breeding season (Total Count). To be tallied in the Total Count, pairs should be present at a site for at least 2 weeks and should exhibit territorial or courtship behavior repeatedly during that period, if not actual nesting. Please complete a form for each beach that you census, even if no plovers were detected. Reporting of "negative" data helps us document trends in both abundance and distribution.

Census Remarks - Use this section to clarify or explain any unusual aspects of your census results. Note any factors that may have biased your index count, for example: wind, rain, or fog; the site was incompletely censused; only one person censused a large site; censused at low tide when some plovers may have been difficult to detect.

If you suspect any pair(s) failed at a site and departed early enough (before approximately June 10) to have renested elsewhere, or if you had late-arriving pairs (after June 1) that may have nested unsuccessfully elsewhere before moving to your site, please indicate here, along with dates these pairs were first or last seen. Communicate with monitors at adjacent sites to compare dates of arrival/departure of such pairs. This information can help minimize double-counting and improve the accuracy of the Total Count.

Visits Per Week - To help us gauge intensity of management and monitoring at each site, please indicate the average number of visits per week made to each site during each month from April through August. If visitation frequency changed substantially within a month, or if a site was visited on only one or a few days, so indicate. For example:

April 1-15: 1 visit/wk  
April 16-30: 3/wk  
May 1-15: 3/wk  
May 16-Aug 10: 5/wk

Exclosure Design - Space is provided to describe up to 3 different designs of predator exclosures that you may have used at a given site. On page 2 there is space to match each type of exclosure (A,B,C) with specific nests. Examples of information that should be reported for each design feature include:

1. Shape: circular, triangular, or other.
2. Diameter/length of side: give diameter (feet) for circular enclosures, longest and shortest diameters for ovals, and length of sides for triangles or squares.
3. Size of wire mesh: give height and width (inches) of opening in wire mesh.
4. Height above ground: height (feet) from ground to top of wire, after buried.
5. Depth buried: depth (inches) of bottom of wire below the sand surface.
6. Cover material: black twine, black fruit netting, etc.
7. Cover spacing/mesh size: for example, twine woven in 2 x 2 in. squares; 3/4 x 3/4 in. mesh netting.

Note that completion of the sections of this form that deal with predator enclosures satisfies state and federal reporting requirements for use of enclosures.

Other Management/Remarks - Please report whether symbolic fencing was used to protect nests and provide chick refuge areas, and whether steps were taken to manage off-road vehicles, pedestrians, pets, dune building projects, or other limiting factors. Recommend other management needs and add remarks about special circumstances or observations that are noteworthy or need clarification. Use a separate sheet if necessary.

Pair No./Nest No. - Number pairs sequentially starting with 1. Match each nest number with the appropriate pair number, if possible. For example: Pair no. 1's first nest would be 1a; if they had a second nest, it would be 1b, etc. If you are uncertain whether a nest was a re-nest or was from a different pair, give your best estimate here, then explain under Remarks.

Number of Eggs/Chicks - Report number of eggs laid and hatched and number of chicks fledged for each pair and nest attempt for which data are available. When estimating reproductive success, chicks are defined as "fledged" if they are  $\geq 25$  days of age or are observed in flight for  $\geq 50$  feet, whichever occurs first. When data are incomplete, don't be afraid to put a "?" in the appropriate box, or use footnotes to reference explanations of uncertain data in Remarks (for example, "No nest found, but a brood later appeared and fledged 3 chicks", or "Four eggs were laid and 4 hatched, but uncertain if 3 or 4 chicks fledged").

Dates - For each nest attempt, give: date clutch was found and number of eggs when found, date clutch was completed (if known)

and date it hatched or failed (if known). These data allow us to better understand breeding chronology in Massachusetts, sort out pairs that may have moved between sites, and calculate nest exposure-days in order to more accurately estimate survival rates of exclosed vs. unexclosed nests.

Exclosure - For each nest, indicate Y (yes) or N (no) whether a predator exclosure was used, the design used (referenced to A, B, or C on page 1), and the date the exclosure was installed.

Causes of egg/chick mortality - Please report any observations or evidence that suggests or confirms causes of egg or chick mortality. While causes of nest loss can often be determined from tracks or other signs, causes of chick mortality are usually difficult to determine with any degree of certainty.

Each year we receive forms on which causes of egg or chick mortality are reported but no supporting data are given. Please provide details and be as specific as possible; attach additional sheets if necessary. Indicate whether the causes of losses you report were confirmed by convincing evidence or were simply suspected based on incomplete or circumstantial evidence. For example: "Nest 1a - egg predation by crows suspected; crow tracks passed within 10 feet of nest, but gravel in immediate area of nest made it impossible to confirm tracks at the nest itself. All eggs gone, no eggshell fragments observed." "Nest 2b - fox predation confirmed; fox tracks approached to within 1 foot of nest scrape, all 4 eggs gone". "Brood from nest 4a - 2 of 4 chicks disappeared at age 2-3 days, after 2 days and a night (June 1-2) of heavy rain and winds 15-25 mph northeast, nighttime temps. in the 40's.

Map - Attach a copy of a map that clearly shows locations of all nests and any pairs that did not nest, referenced by nest or pair number. If necessary, we can provide photocopies of USGS topographic sheets for your site(s). Hand-drawn sketch maps may be submitted if drawn neatly and accurately with reference points that can be matched to recent USGS topographic maps of each site. Please submit completed forms to Scott Melvin or Carolyn Mostello at: Division of Fisheries and Wildlife, Rte. 135, Westborough, MA 01581. If you need additional forms or have questions, contact your supervisor or the Division (508-792-7270, x150, x312).